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ABSTRACT

This report summarizes a study of Virginia superintendents, which was undertaken to determine their perceptions of instructional technology and the factors that facilitate or hinder the implementation of technology. A brief discussion of the survey mailed to 134 superintendents examines their attitudes on the: (1) usefulness of computers in education; (2) optimum ratio of computer to student; (3) computer technology usage for the sixth grade literacy passport program without the state initiative; (4) most important and positive factors in technology implementation; (5) negative factors and greatest hindrance in technology implementation; and (6) degree of educational excellence that will be brought about by technology. Results indicated that educational technologies and the necessary support as advocated by the Virginia Six-year Plan for Technology are considered to be highly useful by the superintendents. It is concluded that access by students to microcomputers, inservice teacher training in technology, and local division funding for technology are essential for successful technology applications. (2 references) (DB)

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The Superintendent's Perception of the Benefit of Instructional Technology in Virginia School Divisions

Terry D. Bailey

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THE SUPERINTENDENT'S PERCEPTION OF THE BENEFIT OF INSTRUCTIONAL TECHNOLOGY IN VIRGINIA SCHOOL DIVISIONS

by

Terry D. Bailey

This publication is based on a dissertation of the same title accepted by the faculty of the Curry School of Education, University of Virginia.

The purpose of this study was to determine the perceptions of Virginia superintendents about instructional technology and the factors that are perceived by them as facilitating or hindering the implementation of technology.

The study presented instructional technology as broadly interpreted to include materials, classroom audio-visual equipment, television, and computer technology linked with the processes, planning, and utilization that are appropriate to provide effective instruction.

The responsibility of the superintendent to provide leadership in the planning and evaluation of all phases of the instructional program, including technology applications, was cited. The perception of the chief school executive sets the tone for the local division.

A review of the Virginia Department of Education's efforts in the past fifty years to provide for technology was outlined to establish a perspective on the state's current role. The Virginia Six-Year Technology Plan (1989) was reviewed and was used as the barometer to develop the measure for the perceptions of division superintendents.

A data-gathering instrument was constructed and mailed to all 134 superintendents in Virginia. Based on a 73.9 percent return, the data indicate that the instructional technologies and the necessary support as advocated by the Virginia Six-Year Plan for Technology are considered to be highly useful by the superintendents. Access by students to microcomputers, teacher training in technology, and local division funding for technology are perceived to be essential by the superintendents.

In order to summarize the study, selected items are reported in this publication.

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1. Based on your perception of the desirability of the following statements, please rate each item, from essential to no opinion, by circling the appropriate number.

1. Essential
2. Highly useful, but not essential
3. Somewhat useful
4. Not at all useful
5. Detrimental
6. No opinion

a. Teachers need computers to create tests, track student progress, and perform word processing and/or other critical activities related to instructional delivery.

b. Students need to have access to computers somewhere in the school for instructional purposes.

c. Electronic classroom/distance learning is needed to provide instructional delivery in order to lessen the disparity for educational opportunity in the State of Virginia.

d. Videotapes and video players are needed for good instruction in history, geography, science, and government.

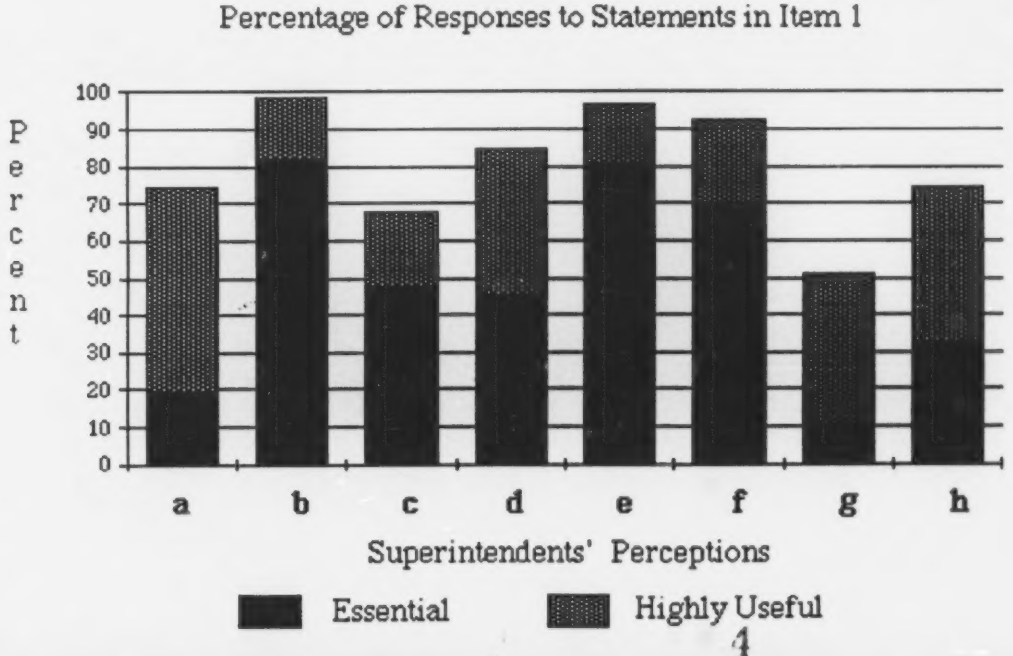
e. School divisions need to fund technologies such as classroom audio-visual equipment, microcomputers, and educational television as part of the division's annual operating budget.

f. A focus of a school division's staff development in-service program needs to be teacher training in the effective use of a variety of technologies, including microcomputers.

g. Schools need to have microcomputers available for overnight and weekend loan to students.

h. Satellite technology is needed to provide programming for instruction.

Graph 1



The respondents to Item 12 (Table 1), which requests the ratio of micro-computer-to-student ratio, appear to be in agreement with the recommendation of the Six-Year Plan. The Plan recommends a one-to-ten student ratio for computers in schools. The Virginia superintendents also match the national survey conducted by Ricketts. (1990)

Table 1

Frequency and Percentage of Responses to
Item 12.- Preferred Microcomputer-to-Student Ratio

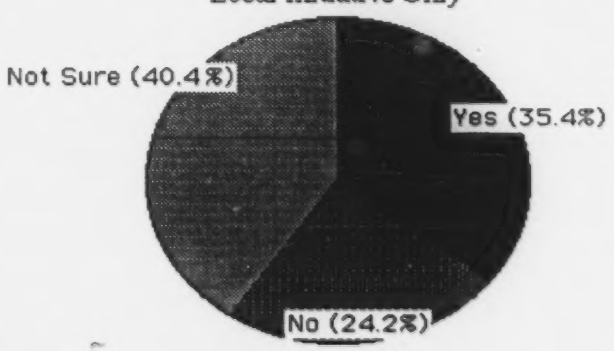
one computer to No. OF STUDENTS	FREQUENCY	PERCENT	Cumulative Percent
1	4	4.3	4.3
2	2	2.2	6.5
3	3	3.2	9.7
4	3	3.2	12.9
5	23	24.7	37.6
6	6	6.5	44.1
7	1	1.1	45.2
8	1	1.1	46.2
10	31	33.3	79.6
15	5	5.4	84.9
20	9	9.7	94.6
25	3	3.2	97.8
30	1	1.1	98.9
50	1	1.1	100
missing	6		
TOTALS	99	100	

Mean = 9.8 Median = 10.0

Item 13 asked if the division would have elected to use computer technology for the literacy passport program in the sixth grade if the state initiative had not been available. As depicted in Graph 2, 35 (35.4 percent) respondents indicated that their divisions would have used computers for the literacy passport program. Twenty-four (24.2 percent) responded with no, while 40 (40.4 percent) checked not sure.

Graph 2

Computer Technology for the Literacy Passport
Local Initiative Only



The most important factors having a positive impact on the implementation of technology were having trained teachers available and providing an in-service program. Lack of funds was the most frequently (94.9 percent) indicated factor listed as hindering the implementation of technology.

Table 2

Frequency and Percentage of Responses to
Items 19a. and 19b.- Technology Implementation
Positive Factors and Most Important Factor

	positive factors		single most important	
FACTORS	FREQUENCY	PERCENT	FREQUENCY	PERCENT
trained teachers	96	97.0	38	50.0
in-service program	83	93.8	5	6.6
parent groups	29	29.3		
research	25	25.3	2	2.6
state dept. programs	59	59.6	4	5.3
grants/funding	68	68.7	8	10.3
leadership/building	82	82.8	7	9.2
superintendent's leadership	70	70.7	5	6.6
board members	55	41.0	3	3.9
business interests	39	39.4	2	2.6
neighboring division	20	20.2		
division promotion	59	59.6	2	2.6
missing			23	

Table 3

Frequency and Percentage of Responses to
Items 20a. and 20b.- Technology Implementation
Negative Factors and Greatest Hindrance

	negative factors		single greatest hindrance	
FACTORS	FREQUENCY	PERCENT	FREQUENCY	PERCENT
lack of funds	94	94.9	55	80.9
low division priority	13	13.1	1	1.5
poor materials	11	11.1		
no division coordination	19	19.2		
insufficient research	6	6.1		
teacher preparation	53	53.5	6	8.9
teacher interests	33	33.3	5	7.4
lack of parents support	3	3.0		
lack of community interest	7	7.1		
availability of equipment	51	51.5	1	1.5
missing			31	

In the open-ended area for Items 20a and 20b—Table 3, the following three comments were written:

lack of a clear sense of future directions

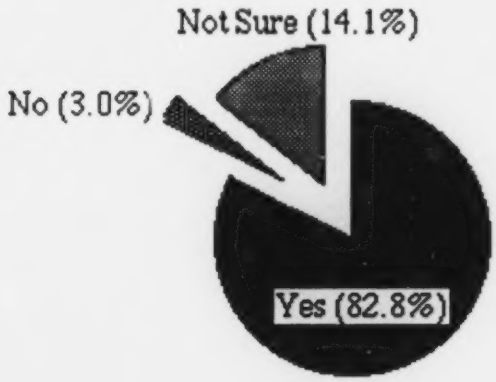
insufficient time for teachers to participate in the change process to incorporate the use of technology

structure of the school day and process of schooling

Eighty-three percent of the superintendents responding to the survey indicated that technology will bring about a greater degree of excellence in education. Forty-six of the respondents provided written comments on the survey. Thirty-nine of the comments received could be considered positive reflections toward technology. The superintendents expressed an interest in the topic and the survey as evidenced by the prompt returns and the comments.

Graph 3

Will Technology Bring About Excellence in Education?



On the multivariate tests of significance at the .05 level, there was no significant difference among the superintendents' responses based on age, years of experience as superintendent, total years of experience, years of experience in Virginia, teaching endorsement, amount of training in technology, the use of computers in the office, the personal ownership of a computer, and the personal ownership of electronic home entertainment equipment.

The perceptions of division superintendents toward the use of instructional equipment and the associated technologies funded and promoted under the state program should be important considerations in developing state initiatives and in division planning.

REFERENCES

Ricketts, Dick (1990). Superintendents say: Much done, much to do. The School Administrator, Special Issue - Connecting Our Students to the Future, 10-13.

Six-Year Technology Plan for Virginia. (1989). Richmond, VA: Department of Education.

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Terry D. Bailey received the Ed.D. in Administration and Supervision from the University of Virginia in May 1990. He is a member of the Six-Year Technology Planning Committee for Virginia and Director for Communications and Media Services, Lynchburg City Schools.

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